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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/663,103

09/16/2003

John D. Reed

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MOTOROLA INC

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EXAMINER

DEAN, RAYMOND S

ART UNIT

PAPER NUMBER

2618

NOTIFICATION DATE

DELIVERY MODE

01/02/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/663,103

Applicant(s)

REED ET AL.

Examiner

RAYMOND S. DEAN

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period **will** apply and **will** expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply **will**, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7 and 12-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-7 and 12-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see remarks filed October 16, 2008 with respect to the rejection(s) of claim(s) 1, 12, 16 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly cited prior art Sourour et al. (6,157,820)

Sourour, which also teaches power control in a CDMA system, teaches determining, by a mobile station, a communication channel variance condition, wherein the communication channel variance condition is at least one of a primary pilot power variance, fading period and fade depth estimate, or a peak-to-average estimate within an adaptive measurement interval (Cols. 4 lines 15 – 17, 8 lines 47 – 60, the window provides the measurement interval or time period).

Examiner respectfully disagrees with Applicants' assertion on Page 7, 2nd Paragraph of the Remarks that Gholmieh does not show or suggest "the mobile station determines a maximum data rate based on the headroom value and sending the maximum data rate to a base station". Gholmieh teaches a wireless system that uses headroom. It is well established in the art, as indicated in Applicants' Background (See Page 1 lines 23 – 26), that the mobile stations determine the maximum data rate based on the headroom such that said mobile can send said maximum data rate to the base station. This feature is thus inherent in Gholmieh. Examiner respectfully disagrees with

Applicants' assertion on Page 7, 3rd Paragraph regarding Claims 4 and 14 for the same reasons set forth above.

Examiner respectfully disagrees with Applicants' assertion about Corazza for the battery-limited condition (See Page 8, 1st Paragraph of Remarks). The headroom value, R sub Step2, is dependent on the maximum transmit power, which is dependent on the amount of battery energy, the headroom value is thus dependent on said battery energy by virtue of it's dependence on the maximum transmit power

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3 - 4, 7, 12 - 14, 16 - 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gholmie et al. (US 2004/0147276) in view of Sourour et al. (6,157,820)

Regarding Claim 1, Gholmie teaches a method for establishing headroom to provide margin in determining available transmit power value for a mobile station operating in a wireless communication system comprising the steps of: establishing, by the mobile station, a headroom value based on the communication channel variance condition (Sections 0009 lines 1 - 9, 0021 lines 3 - 7, 0023, 0026 - 0028).

Gholmieh does not teach determining, by the mobile station, a communication channel variance condition, wherein the communication channel variance condition is at least one of a primary pilot power variance, fading period and fade depth estimate, or a peak-to-average estimate within an adaptive measurement interval.

Sourour, which also teaches power control in a CDMA system, teaches determining, by a mobile station, a communication channel variance condition, wherein the communication channel variance condition is at least one of a primary pilot power variance, fading period and fade depth estimate, or a peak-to-average estimate within an adaptive measurement interval (Cols. 4 lines 15 – 17, 8 lines 47 – 60, the window provides the measurement interval or time period).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the power control system of Gholmieh with the above feature of Sourour for the purpose of providing an improved method for searching for stronger paths for active CDMA channels while continuously measuring pilot signal strengths as taught by Sourour.

Regarding Claim 12, Gholmieh teaches a mobile station comprising: means for establishing, by the mobile station, a headroom value based on the communication channel variance condition (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0023, 0026 – 0028).

Gholmieh does not teach means for determining, by the mobile station, a communication channel variance condition, wherein the communication channel variance condition is at least one of a primary pilot power variance, fading period and

fade depth estimate, or a peak-to-average estimate within an adaptive measurement interval.

Sourour, which also teaches power control in a CDMA system, teaches determining, by a mobile station, a communication channel variance condition, wherein the communication channel variance condition is at least one of a primary pilot power variance, fading period and fade depth estimate, or a peak-to-average estimate within an adaptive measurement interval (Cols. 4 lines 15 – 17, 8 lines 47 – 60, the window provides the measurement interval or time period).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the power control system of Gholmieh with the above feature of Sourour for the purpose of providing an improved method for searching for stronger paths for active CDMA channels while continuously measuring pilot signal strengths as taught by Sourour.

Regarding Claim 16, Gholmieh teaches a wireless communication system comprising: a base station; at least one mobile station (Figure 1); and means for establishing, by at least one mobile station, a headroom value based on the communication channel variance condition (Sections 0009 lines 1 – 9, 0021 lines 3 – 7, 0023, 0026 – 0028).

Gholmieh does not teach means for determining, by the at least one mobile station, a communication channel variance condition, wherein the communication channel variance condition is at least one of a primary pilot power variance, fading

period and fade depth estimate, or a peak-to-average estimate within an adaptive measurement interval.

Sourour, which also teaches power control in a CDMA system, teaches determining, by at least one mobile station, a communication channel variance condition, wherein the communication channel variance condition is at least one of a primary pilot power variance, fading period and fade depth estimate, or a peak-to-average estimate within an adaptive measurement interval (Cols. 4 lines 15 – 17, 8 lines 47 – 60, the window provides the measurement interval or time period).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the power control system of Gholmieh with the above feature of Sourour for the purpose of providing an improved method for searching for stronger paths for active CDMA channels while continuously measuring pilot signal strengths as taught by Sourour.

Regarding Claims 3, 13, Gholmieh in view of Sourour teaches all of the claimed limitations recited in Claims 1, 12. Gholmieh further teaches wherein the mobile station determines a maximum data rate based on the headroom value (Sections 0010, 0036) and sends the maximum data rate to a base station (Sections 0010, 0036).

Regarding Claims 4, 14, Gholmieh in view of Sourour teaches all of the claimed limitations recited in Claims 1, 12. Gholmieh further teaches wherein the mobile station determines a maximum data rate based on the headroom value (Sections 0010, 0036) and sends a rate adjustment request to a base station (Section 0010).

Regarding Claim 7, Gholmieh in view of Sourour teaches all of the claimed limitations recited in Claim 1. Sourour further teaches wherein determining a communication channel variance condition includes measuring a variance in a primary pilot power (Cols. 4 lines 15 – 17, 8 lines 47 – 60).

Regarding Claim 17, Gholmieh in view of Sourour teaches all of the claimed limitations recited in Claim 16. Gholmieh further teaches means for determining a data rate based on the headroom value (Sections 0010, 0036).

Regarding Claim 18, Gholmieh in view of Sourour teaches all of the claimed limitations recited in Claim 17. Gholmieh further teaches means for sending the data rate between the base station and said at least one mobile station (Figure 1, Sections 0010, 0036).

4. Claims 5 – 6, 15, 19 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gholmieh et al. (US 2004/0147276) in view of Sourour et al. (6,157,820), as applied to Claims 1, 12, 16 above, and further in view of Corazza (US 6,563,810).

Regarding Claims 5, 15, 19, Gholmieh in view of Sourour teaches all of the claimed limitations recited in Claims 1, 12, 16. Gholmieh in view of Sourour does not teach detecting a battery condition of the mobile station; and modifying the headroom value based on the battery condition.

Corazza teaches detecting a battery condition of the mobile station; and modifying the headroom value based on the battery condition (Col. 6 lines 30 – 51, the

headroom value, $R_{\text{sub Step2}}$, is dependent on the maximum transmit power, which is dependent on the amount of battery energy, the headroom value is thus dependent on said battery energy by virtue of it's dependence on the maximum transmit power).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Gholmieh in view of Sourour with headroom adjustment method of Corazza for the purpose providing an alternative means of determining a maximum data rate.

Regarding Claim 6, Gholmieh in view of Sourour and in further view of Corazza teaches all of the claimed limitations recited in Claim 5. Corazza further teaches determining if the battery condition relates to a low battery level; and if the battery condition relates to a low battery level, increasing the headroom value (Col. 6 lines 30 – 51, the headroom value, $R_{\text{sub Step2}}$, is dependent on the maximum transmit power, which is dependent on the amount of battery energy, the headroom value is thus dependent on said battery energy by virtue of it's dependence on the maximum transmit power).

Regarding Claim 20, Gholmieh in view of Sourour and in further view of Corazza teaches all of the claimed limitations recited in Claim 19. Gholmieh further teaches means for determining a data rate based on the headroom value (Sections 0010, 0036); and means for sending the data rate between the base station and said at least one mobile station (Figure 1, Sections 0010, 0036).

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAYMOND S. DEAN whose telephone number is (571)272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Raymond S Dean/
Examiner, Art Unit 2618
December 19, 2008